FIG.1

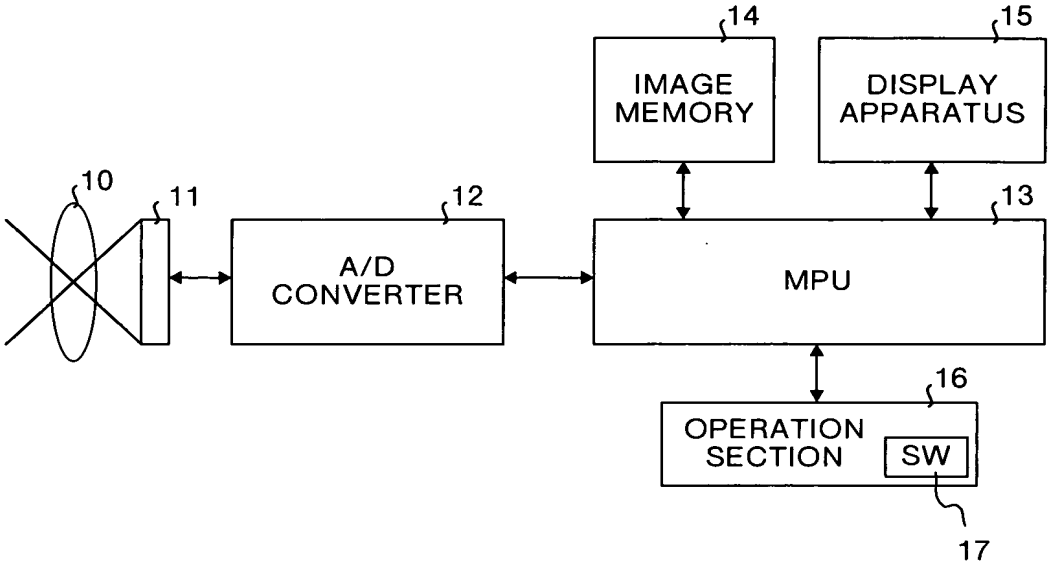

14
15
IMAGE MEMORY
DISPLAY APPARATUS
10
11
12
13
A/D CONVERTER
MPU
16
OPERATION SECTION
SW
17

FIG.2

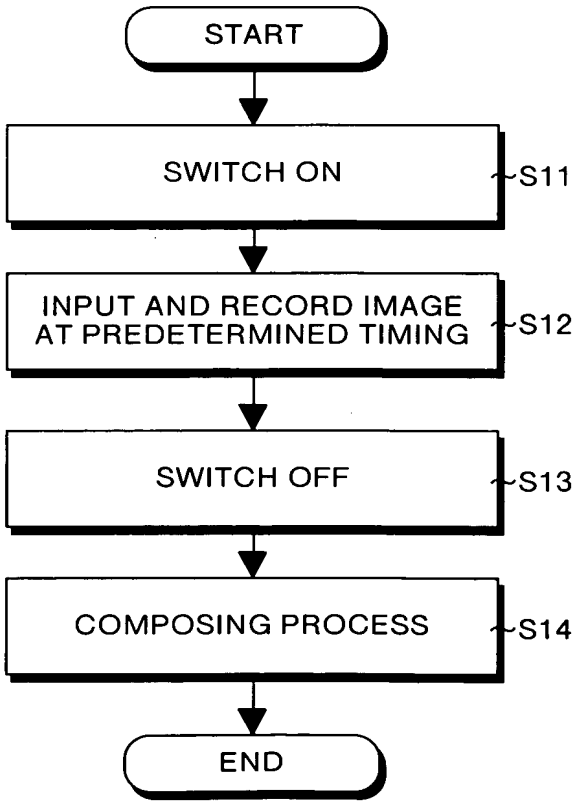

START
SWITCH ON
S11
INPUT AND RECORD IMAGE AT PREDETERMINED TIMING
S12
SWITCH OFF
S13
COMPOSING PROCESS
S14
END

FIG.3

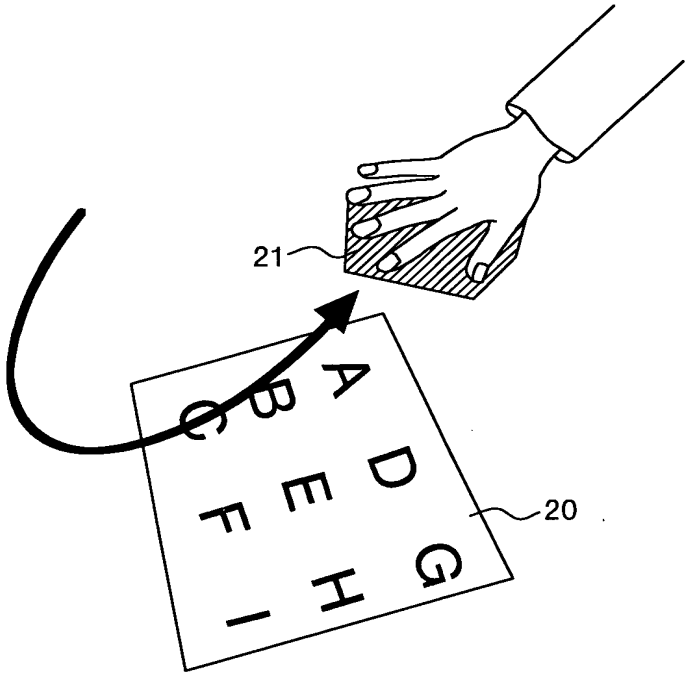


FIG.4A

A	D
B	E

FIG.4B

B	E
C	F

FIG.4C

E	H
F	I

FIG.4D

D	G
E	H

FIG.5

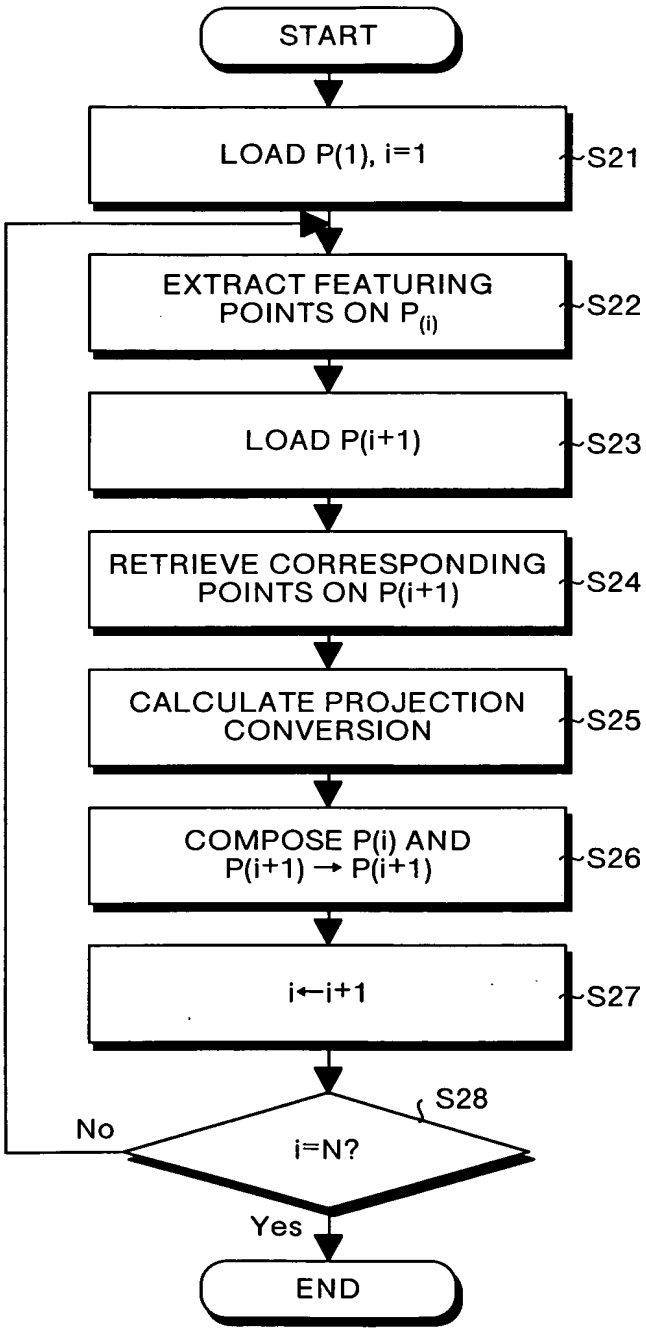

START
LOAD P(1), i=1
S21
EXTRACT FEATURING POINTS ON P(i)
S22
LOAD P(i+1)
S23
RETRIEVE CORRESPONDING POINTS ON P(i+1)
S24
CALCULATE PROJECTION CONVERSION
S25
COMPOSE P(i) AND P(i+1) → P(i+1)
S26
i←i+1
S27
S28
i=N?
No
Yes
END

FIG.6A

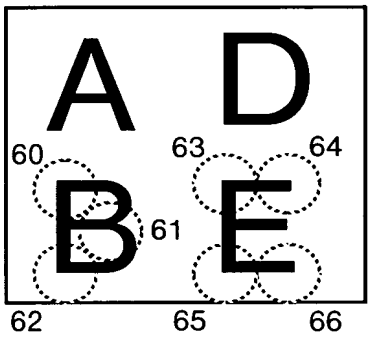


FIG.6B

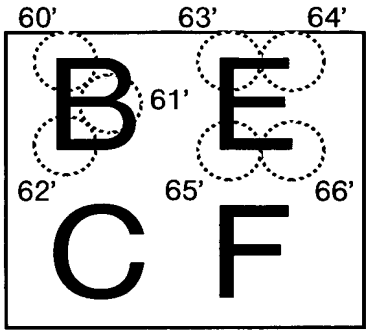


FIG.7A

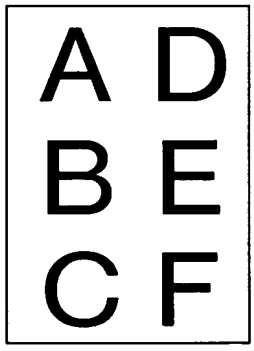


FIG.7B

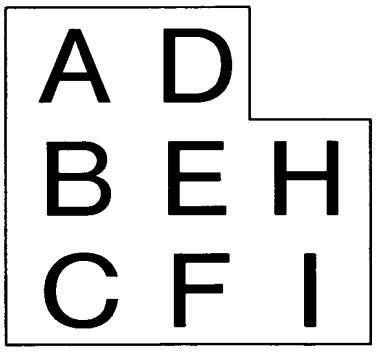


FIG.7C

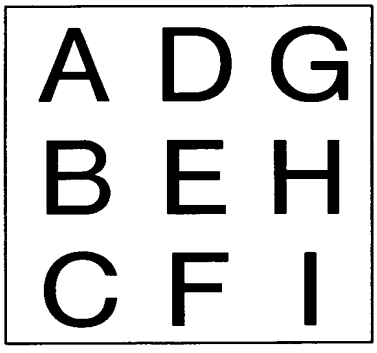


FIG.8

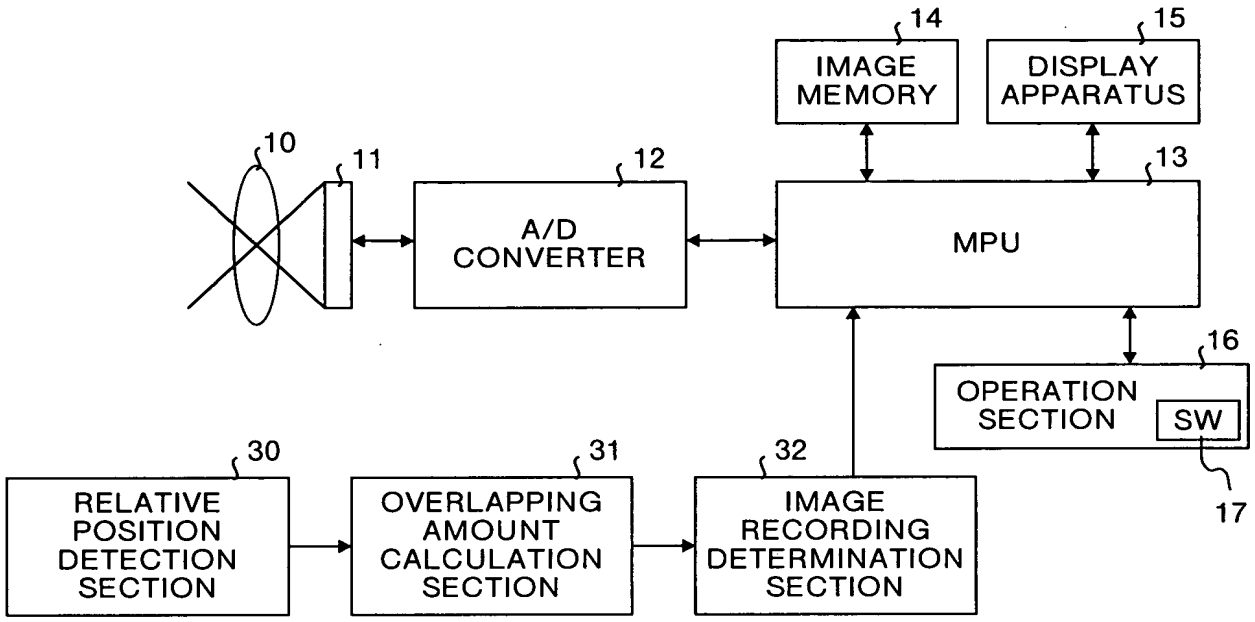

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
30
RELATIVE POSITION DETECTION SECTION
31
OVERLAPPING AMOUNT CALCULATION SECTION
32
IMAGE RECORDING DETERMINATION SECTION

FIG.9

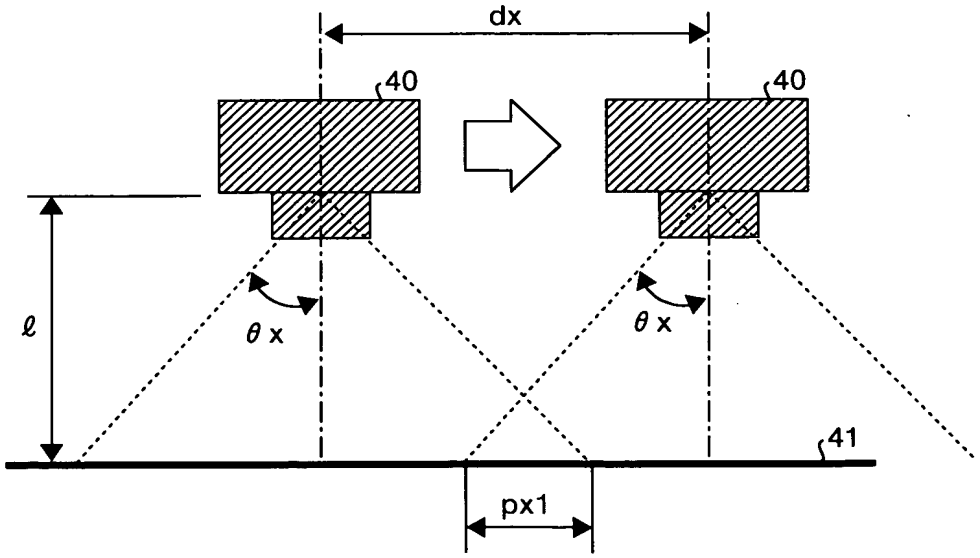

dx
40
40
ℓ
θx
θx
41
px1

FIG.10

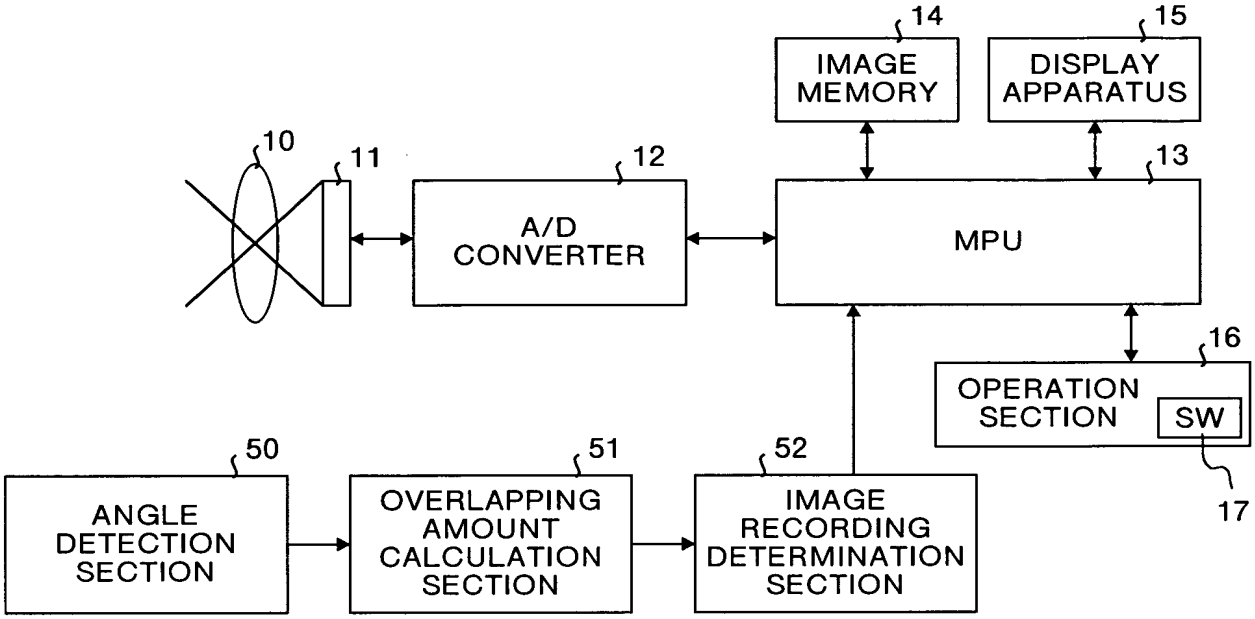

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
50
ANGLE DETECTION SECTION
51
OVERLAPPING AMOUNT CALCULATION SECTION
52
IMAGE RECORDING DETERMINATION SECTION

FIG.11

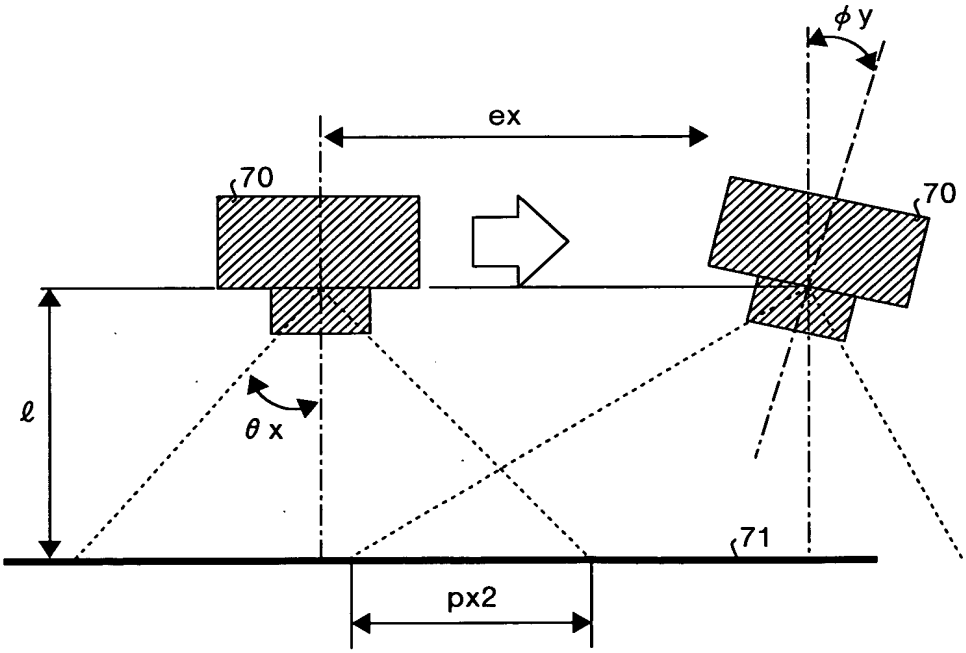

ϕ y
ex
70
70
ℓ
θ x
71
px2

FIG.12

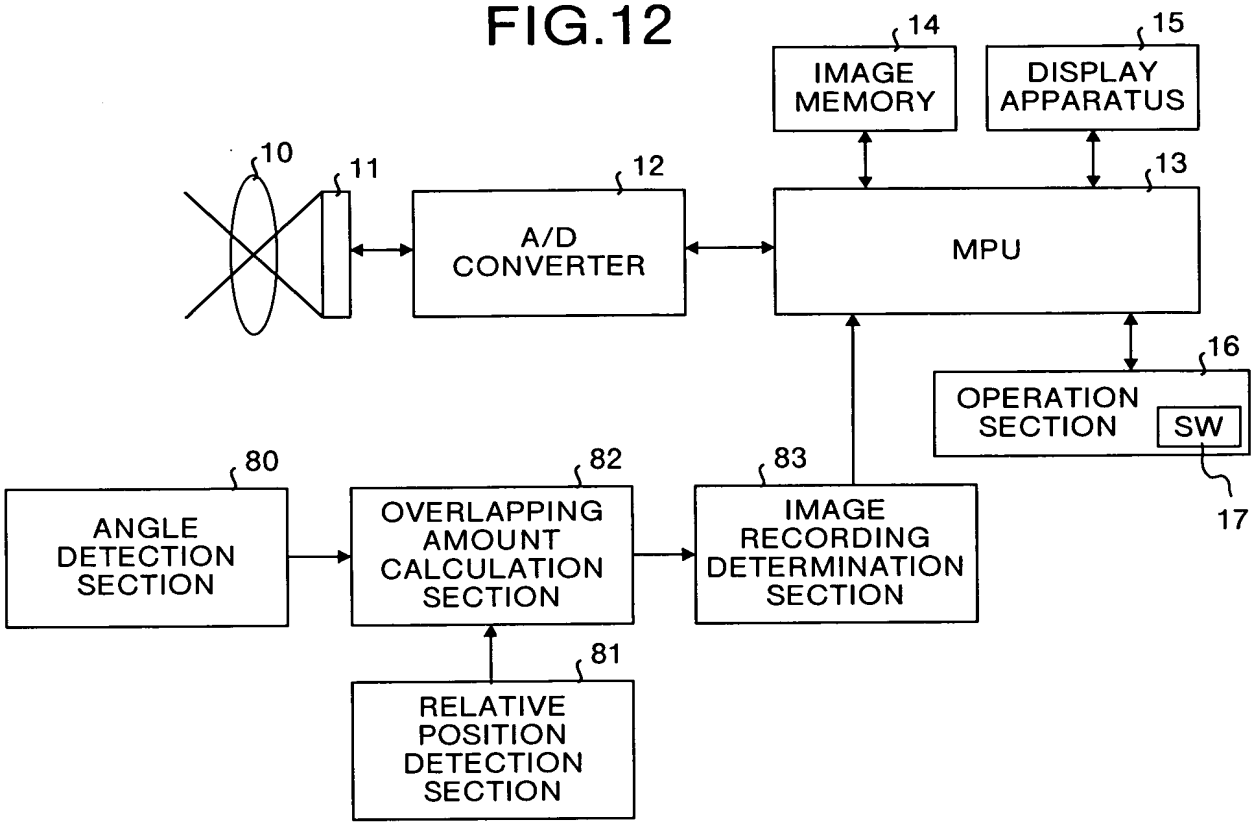

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
80
ANGLE DETECTION SECTION
82
OVERLAPPING AMOUNT CALCULATION SECTION
83
IMAGE RECORDING DETERMINATION SECTION
81
RELATIVE POSITION DETECTION SECTION

FIG.13

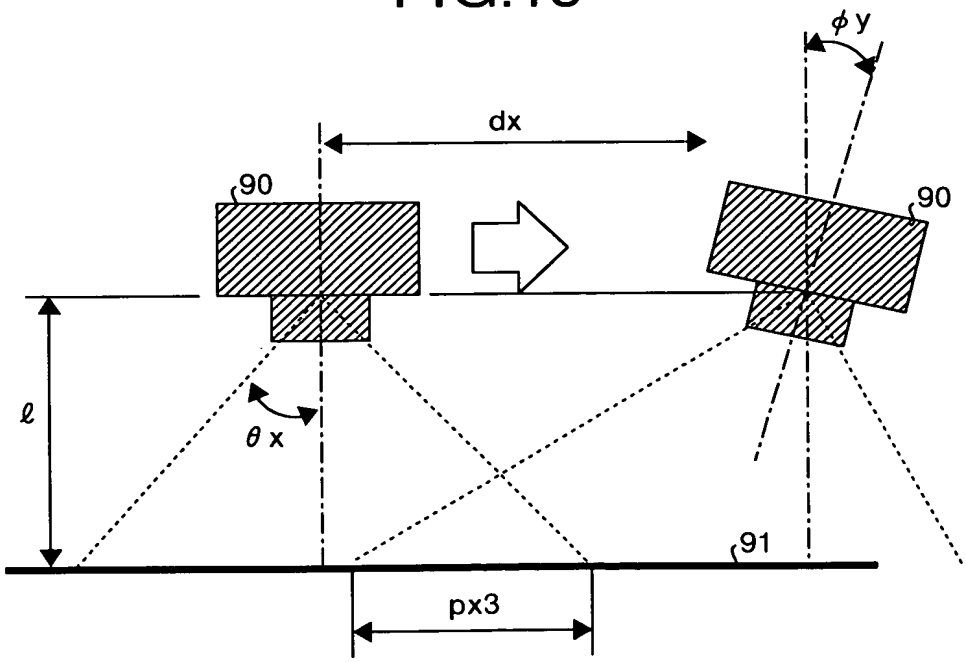

φ y
dx
90
90
ℓ
θ x
91
px3

FIG.14

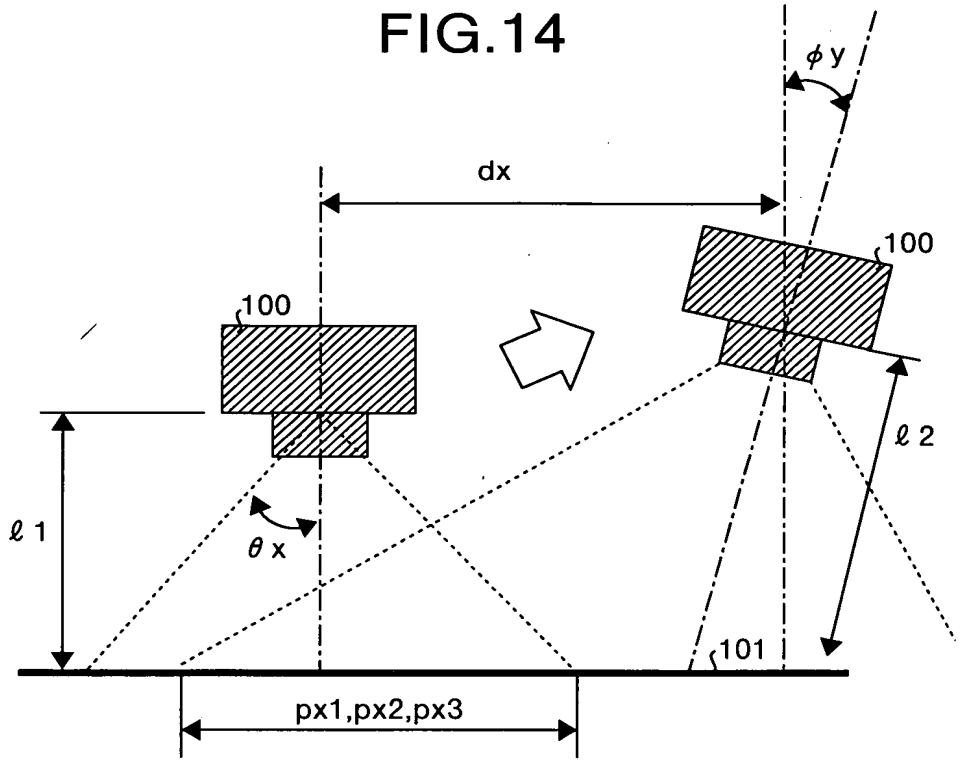

φy
dx
100
100
ℓ2
ℓ1
θx
101
px1,px2,px3

FIG.15

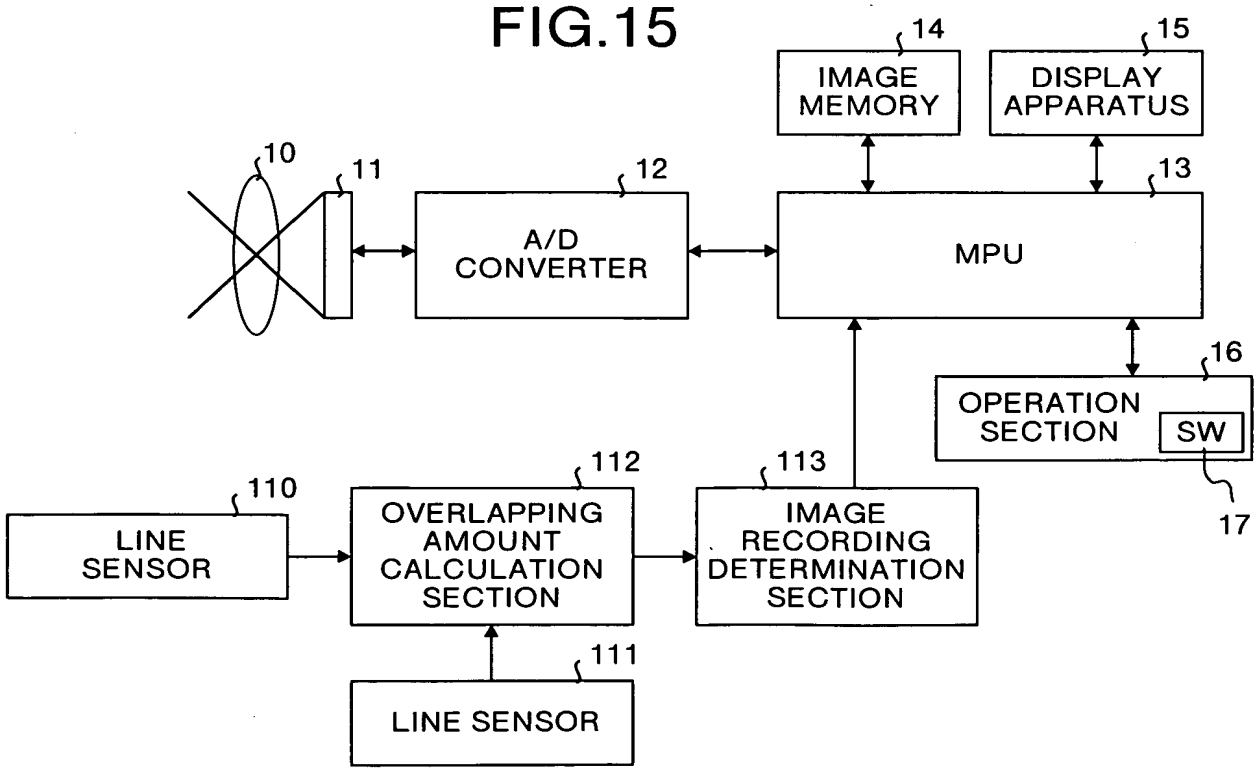

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
110
LINE SENSOR
112
OVERLAPPING AMOUNT CALCULATION SECTION
113
IMAGE RECORDING DETERMINATION SECTION
111
LINE SENSOR

FIG.16

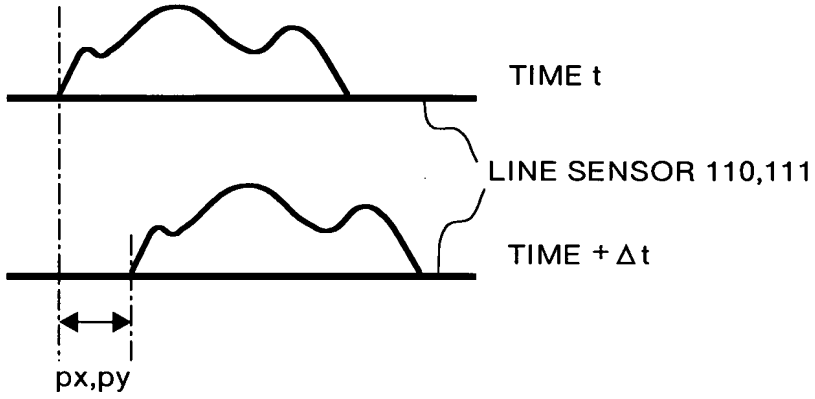

TIME t
LINE SENSOR 110,111
TIME + Δt
px,py

FIG.17

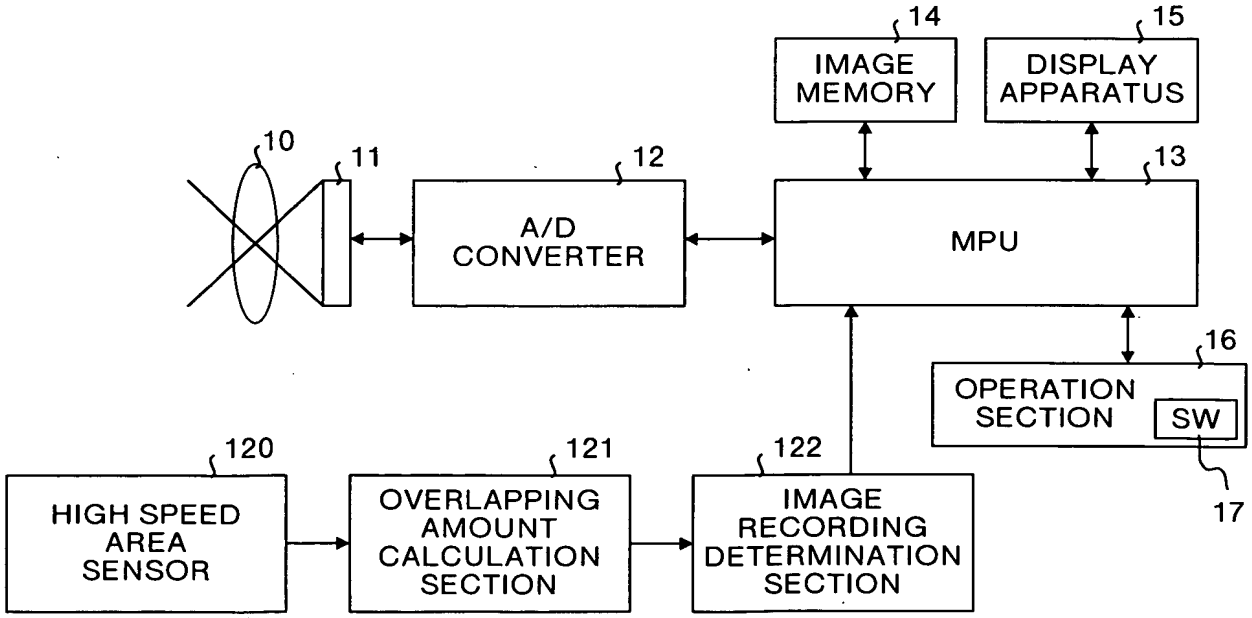

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
120
HIGH SPEED AREA SENSOR
121
OVERLAPPING AMOUNT CALCULATION SECTION
122
IMAGE RECORDING DETERMINATION SECTION

FIG.18

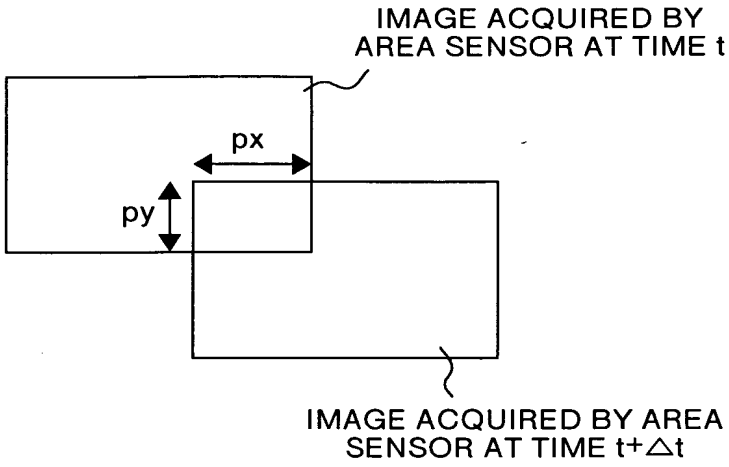


IMAGE ACQUIRED BY AREA SENSOR AT TIME t
px
py
IMAGE ACQUIRED BY AREA SENSOR AT TIME t+△t

FIG.19

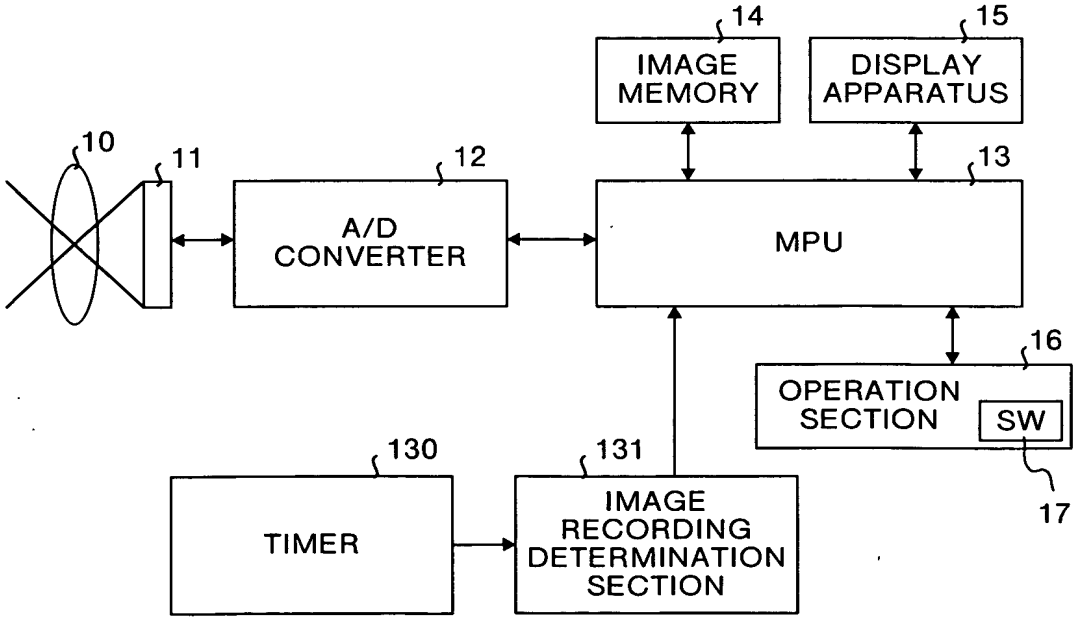
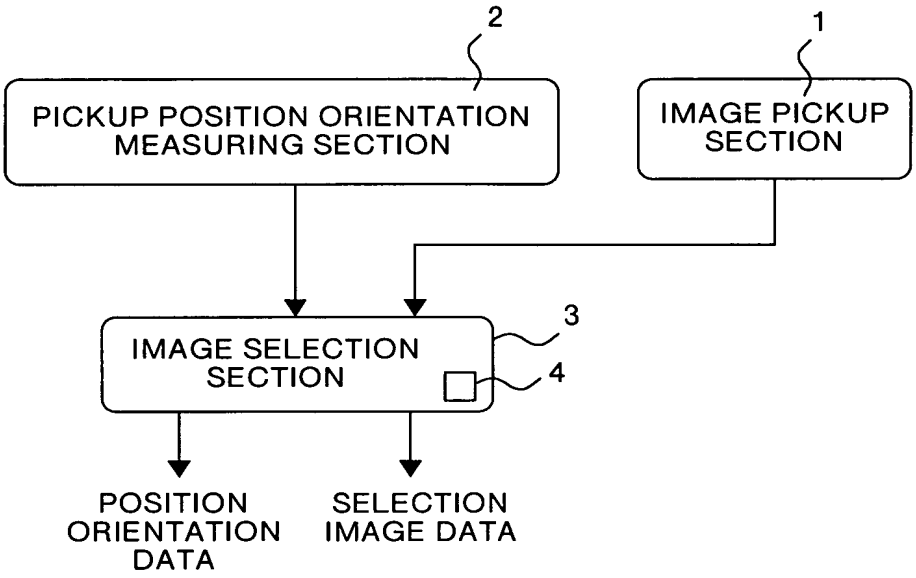

14
IMAGE MEMORY
15
DISPLAY APPARATUS
10
11
12
A/D CONVERTER
13
MPU
16
OPERATION SECTION
SW
17
130
TIMER
131
IMAGE RECORDING DETERMINATION SECTION

FIG.20


2
1
PICKUP POSITION ORIENTATION MEASURING SECTION
IMAGE PICKUP SECTION
IMAGE SELECTION SECTION
3
4
POSITION ORIENTATION DATA
SELECTION IMAGE DATA